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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,987	10/02/2003	Eung Chul Park	YHK-0121	7800

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EXAMINER

ROY, SIKHA

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/675,987	Applicant(s) CHUL PARK, EUNG	
	Examiner Sikha Roy	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 11, 12, 15-22 and 25-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 12, 15-22, 25, 26 and 28 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/25/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Amendment, filed on December 8, 2005 has been entered and is acknowledged by the Examiner.

Cancellation of claims 5-10,13,14,23 and 24 and addition of new claims 27 and 28 have been entered.

The new drawing of Fig. 6 has been entered and is approved by the Examiner.

Claim Objections

Claims 1-4,16-19, 21,22,25-28 are objected to because of the following informalities:

In all these claims, the amount of silicon should be in 'wt. ppm' instead of 'ppm ' as corrected in specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 11,12, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000063171 to Takenouchi et al.

Regarding claim 1 Takenouchi discloses (English translation sections [0001], [0010]) a protective film for plasma display panel comprising magnesium oxide (MgO) and 150 wt. ppm or less of silicon.

Regarding 'silicon is added to the main component', here the Applicant is claiming the product of protective film of a plasma display panel including a method (i.e. a process) of making the protective film. It is the product and not the recited process that is covered by the claim. Further, patentability of a claim to a product does not rest merely on the difference in the method by which the product is made. Rather, is the product itself which must be new and not obvious. The protective film as disclosed by Takenouchi has all the structural limitations as claimed and hence the claim is rejected.

Regarding claim 2 Takenouchi discloses the protective film comprises silicon 150 wt. ppm or less which is within the range claimed.

Regarding claim 3 Takenouchi discloses (English translation section [0011]) the protective film further comprises 200 wt. ppm or less of calcium (Ca), 50 wt. ppm or less of iron (Fe) and 150 wt. ppm or less of aluminum (Al). The examiner notes that content of calcium less than 200 wt. ppm as disclosed by Takenouchi includes the values less than 50 wt. ppm as claimed.

Regarding claim 11, it is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing

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novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). Thus, it is the position of the examiner that the protective film as disclosed by Takenouchi is inherently capable of compensating for secondary electron emission characteristics deteriorated by crystalline defects and impurities.

Regarding claim 12 it is elementary that mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on. *In re Swinehart*, 169 USPQ 226 (CCPA 1971). Thus, it is the position of the examiner that the protective film of Takenouchi is inherently capable of performing the functional limitation of reducing jitter value within the plasma display panel during address.

Referring to claims 21 and 22 Takenouchi discloses the protective film further comprises nickel (Ni) less than 10 wt. ppm, sodium (Na) less than 20 wt. ppm and potassium (K) less than 20 wt. ppm. The examiner notes here although upper limits of

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the contents of Ni, Na and K as disclosed by Takenouchi are higher but these ranges certainly include the values of claimed concentrations of Ni, Na and K.

Claims 15 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,242,864 to Nakahara et al.

Regarding claim 15 Nakahara discloses (Fig. 4 column 3 lines 49-62 column 8 lines 14-30) an AC type plasma display panel comprising an upper substrate 11, a lower substrate 21 across from the upper substrate, a plurality of electrodes X and Y on the upper substrate, a protective film 18 formed on the upper substrate layer, a plurality of address electrodes A on the lower substrate, wherein the protective film comprises magnesium oxide and silicon.

Regarding claim 28 Nakahara discloses (Fig. 4 column 3 lines 56-62) a protective film (insulating layer covering the dielectric layer) comprising magnesium oxide and silicon (silicon atom) wherein the protective film has 500 wt. ppm of silicon.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15 – 20, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) and further in view of JP 2000063171 to Takenouchi et al.

Regarding claim 15 AAPA discloses (Fig. 1 specification page 1 lines 24-32 page 2 lines 1-21) a plasma display panel comprising an upper substrate, a lower substrate across from the upper substrate, a plurality of electrodes Y, Z on the upper substrate, a protective film (6 and 7) of magnesium oxide on the upper substrate layer, a plurality of address electrodes X on the lower substrate.

Claim 15 differs from AAPA in that AAPA does not exemplify the protective film comprising silicon.

Takenouchi in analogous art of AC plasma display discloses (English translation sections [0001], [0010]) a protective film for plasma display panel comprising magnesium oxide (MgO) and silicon. Takenouchi further teaches that addition of impurity such as silicon in the protective film improves its uniform film formation property and prevents generation of splash and hence improves the operation of the display device.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include silicon with magnesium oxide of the protective film of AAPA as taught by Takenouchi for improving its uniform film formation property and preventing generation of splash in the protective film of the device.

Regarding claim 16 Takenouchi discloses the protective film comprises 150 wt. ppm of silicon, the concentration of 150 wt. ppm is within (at most 5000 wt. ppm of silicon) the claimed upper limit.

Regarding claim 17 Takenouchi discloses the protective film comprises 150 wt. ppm of silicon, this concentration being within (at most 500 wt. ppm of silicon) the claimed upper limit.

Referring to claim 18 Takenouchi discloses the protective film comprises silicon 150 wt. ppm or less which is within the claimed range.

Regarding claim 19 Takenouchi discloses (English translation section [0011]) the protective film further comprises 200 wt. ppm or less of calcium (Ca), 50 ppm or less of iron (Fe) and 150 wt. ppm or less of aluminum (al). The examiner notes that content of calcium less than 200wt. ppm includes the values less than 50 wt. ppm as claimed.

Regarding claim 20 AAPA discloses (page 7 lines 1-10) the plasma display panel comprises a discharge gas between the upper and lower substrates wherein the discharge gas contains more than 5% by volume of xenon resulting in higher brightness of the display panel.

Regarding claim 25 Takenouchi discloses the protective film further comprises nickel (Ni) less than 10 wt. ppm, sodium (Na) less than 20 wt. ppm and potassium (K) less than 20 wt. ppm. The examiner notes here although upper limits of the contents of Ni, Na and K as disclosed by Takenouchi are higher but these ranges certainly include the values of claimed concentration of Ni, Na and K.

Regarding claim 26 AAPA discloses (Fig. 1) the protective film further comprises an upper dielectric layer 6 on the upper substrate.

Allowable Subject Matter

Claim 27 is allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

Regarding claim 27 prior art of record neither teaches nor renders obvious the protective film of a plasma display panel comprising magnesium oxide having about 300 wt. ppm of silicon.

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 4 prior art of record neither teaches nor renders obvious the protective film of a plasma display panel comprising magnesium oxide having about 300 wt. ppm of silicon.

Response to Arguments

Applicant's arguments filed December 8, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument that Takenouchi does not disclose 'addition of silicon' the Examiner respectfully submits that here the Applicant is claiming the product of protective film of a plasma display panel including a method (i.e. a process) of making the protective film. It is the product and not the recited process that is covered by the claim. Further, patentability of a claim to a product does not rest merely on the difference in the method by which the product is made. Rather, is the product itself which must be new and not obvious. The protective film as disclosed by Takenouchi has all the structural limitations of a protective film of plasma display panel including silicon as claimed and hence the claim is rejected. Takenouchi discloses that it is desirable that the content of these silicon, aluminum, calcium, Na, K present as impurities should be in the predetermined concentration (as claimed) so as to provide for uniform thickness across the front face of the dielectric layer protecting it from the sputtering discharge.

In response to applicant's allegation that Nakahara does not disclose inclusion of silicon but only silicon compounds the examiner disagrees. Nakahara does indeed disclose (claims 13, 19) the magnesium oxide film containing silicon atoms in a predetermined amount.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 2003-272533 to Akiyama et al. discloses the protective layer of a plasma display panel comprising magnesium oxide and silicon.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (703) 308-7382.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.R.

Sikha Roy
Patent Examiner
Art Unit 2879

Karabi Guhasay

**KARABI GUHASAY
PRIMARY EXAMINER**